threshold value and the value of replication factor is less than 1, detecting whether a storage space is added to the memory;

in response to the detecting whether the storage space is added to the memory, determining whether a second memory utilization rate of the memory, the storage space is added, is equal to or greater than the threshold value; and

the determining determines that the second memory utilization rate is less than the threshold value, re-balancing the data in the memory added with the storage space.

5. The method of claim **1**, wherein the first determining whether the first memory utilization rate is equal to or greater than the threshold value comprises:

second determining a capacity of a storage space for addition to the memory when the value of replication factor is less than 1; and

outputting an addition request message for storage space that comprises information about the capacity of the storage space for addition to the memory.

6. The method of claim **5**, wherein the second determining the capacity of the storage space for addition to the memory comprises:

third determining the capacity of the storage space that is required to satisfy the first memory utilization rate being less than the threshold value and to additionally store at least one copy of the data.

7. A method for managing data using an in-memory database that is executed by a database management apparatus, the method comprising:

first determining whether a memory utilization rate is equal to or greater than a first threshold value;

in response to the first determining determines that the memory utilization rate is equal to or greater than the first threshold value, identifying first data on at least one node among data distributed and stored on multiple nodes; and

deleting second data, the second data being duplicates of the identified first data, based on a preset number,

wherein the data comprises the first data.

8. The method of claim **7**, wherein the identifying the first data comprises:

identifying the first data based on a preset priority;

identifying the second data stored in a node that is different from the at least one node storing the identified first data; and

determining the second data as a deletion target based on the preset priority.

9. The method of claim **8**, wherein the deleting the second data comprises:

detecting whether a storage space is added to the memory;

in response to the detecting whether the storage space is added to the memory, checking the identified first data based on the preset priority;

generating at least one copy of the checked identified first data by the preset number; and

re-balancing the data in the memory added with the storage space.

10. The method of claim **9**, wherein the generating the at least one copy by the preset number comprises:

determining whether the data configured to include the at least one copy is recognized to be identical to the data configured to include the identified first data; and

setting a value of replication factor to be equal to the number of data recognized to be identical.

11. The method of claim **7**, wherein the deleting the second data comprises:

second determining after deleting the second data, whether the memory utilization rate is equal to or greater than a second threshold value;

in response to the second determining determines that the memory utilization rate is equal to or greater than the second threshold value, reducing the value of replication factor of the data; and

deleting at least one data duplicated with the first data based on the reducing the value of replication factor.

12. The method of claim **7**, wherein the deleting the duplicated data comprises:

second determining after deleting the second data, whether the memory utilization rate is equal to or greater than the second threshold value; and

in response to the second determining determines that the memory utilization rate is less than the second threshold value, outputting information about capacity of a remaining storage space corresponding to at least one of the first and second threshold value.

13. A database management apparatus using an in-memory database, the apparatus comprising:

a memory configured to store data; and

a control unit that determines whether a memory utilization rate is equal to or greater than a threshold value, in response to the memory utilization rate being determined to be equal to or greater than the threshold value, performs control so that a value of replication factor of the data stored in the memory decreases, and deletes at least one data duplicated with the stored data with the decrease in the value of replication factor.

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